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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 08/796,752      | 02/06/1997  | KOJI ARAI            | 614.1804/HJS        | 9335             |

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STAAS & HALSEY LLP  
SUITE 700  
1201 NEW YORK AVENUE, N.W.  
WASHINGTON, DC 20005

|                       |
|-----------------------|
| EXAMINER              |
| NGUYEN, PHUONGCHAU BA |

| ART UNIT | PAPER NUMBER |
|----------|--------------|
| 2665     | 38           |

DATE MAILED: 03/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                                  |                  |
|------------------------------|----------------------------------|------------------|
| <b>Office Action Summary</b> | Application No.                  | Applicant(s)     |
|                              | 08/796,752                       | ARAI, KOJI       |
|                              | Examiner<br>Phuongchau Ba Nguyen | Art Unit<br>2665 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 1-2-04 Amendment.
- 2a) This action is FINAL.                                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 3-5,8,9,11,12,22-25 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) 3-5,8,9,11 and 12 is/are allowed.
- 6) Claim(s) 22-25 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.
 

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.
 

If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
  - a)  The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_\_.

*Claim Rejections – 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 24–25 are rejected under 35 U.S.C. 102(b) as being anticipated by Nishimura (5,400,024).

Regarding claim 24:

Nishimura discloses in figure 1 a communication method for a radio LAN system having  $n-1$  ( $n=3, 4, \dots$ ) base stations, comprising:

Receiving a time multiplexed input signal having a plurality of original data components, the original data being continuous, and each original data component to be sent to a different terminal and occupying a single time slot {col.2, lines 4–6; also data is transmitted continuously because the data being transmitted a rate, kbps—emphasis added};

Dividing each original data component into n-1 sub-components, each of the sub-components containing a different and smaller portion of the respective original data component {col.2, lines 14-20};

Converting each of the sub-component into n-1 converted sub-components having a lower rate than that of the respective sub-components {col.2, lines 20-31}; and

Transmitting each of the n-1 converted sub-components of each original data component from a different one of the n-1 base stations to a corresponding terminal, wherein the n-1 base stations, respectively transmitting the n-1 converted sub-components, simultaneously transmit signals belongs to a specific one of the original data components for a corresponding terminal of the specific one of the original data components {col.2, lines 32-41; Nishimura's system is a cellular system thus each cell has a base station providing signals to all mobile stations within its cell. Also, because signal 64 kbps was being divided (demultiplexed) into a plurality of 11.2 kbps signals, thus 11.2 kbps signals were transmitted from n base stations to mobiles within its cell simultaneously---emphasis added}.

Regarding claim 25:

Nishimura disclose in figure 1 a communication method for a radio LAN system having  $n-1$  ( $n=3, 4, \dots$ ) base stations, comprising:

A receiving unit receiving a time multiplexed input signal having a plurality of original data components, the original data being continuous, and each original data component to be sent to a different terminal and occupying a single time slot {col.2, lines 4–6; also data is transmitted continuously because the data being transmitted a rate, 11.2 kbps—emphasis added};

A dividing unit dividing each original data component into  $n-1$  sub-components, each of the sub-components containing a different and smaller portion of the respective original data component {col.2, lines 14–20};

A converting unit converting each of the sub-component into  $n-1$  converted sub-components having a lower rate than that of the respective sub-components {col.2, lines 20–31}; and

A transmitting unit transmitting each of the  $n-1$  converted sub-components of each original data component from a different one of the  $n-1$

base stations to a corresponding terminal, wherein the n-1 base stations, respectively transmitting the n-1 converted sub-components, simultaneously transmit signals belongs to a specific one of the original data components for a corresponding terminal of the specific one of the original data components {col.2, lines 32-41; Nishimura's system is a cellular system thus each cell has a base station providing signals to all mobile stations within its cell. Also, because signal 64 kbps was being divided (demultiplexed) into a plurality of 11.2 kbps signals, thus 11.2 kbps signals were transmitted from n base stations to mobiles within its cell simultaneously---emphasis added}.

*Claim Rejections – 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 22–23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimura (5,400,024) in view of Tiedemann (5,926,470).

**Regarding claim 22:**

Nishimura discloses in figure 1 a communication method for a radio LAN system, comprising:

Receiving a first slot having first signals for a first terminal and a second slot having second signals for a second terminal {col.2, lines 4–6};

Dividing said first signals of said first slot into at least a first part and a second part {col.2, lines 14–20};

Converting said first part into a first converted part having a lower transmitting rate than that of said first part {col.2, lines 20–31}

Converting said second part into a second converted part having a lower transmitting rate than that of said second part {col.2, lines 20–31}; and

Transmitting said first converted part from a first base station to said first terminal and transmitting said second converted part from a second base station to said first terminal, wherein said first base station and said second base station simultaneously transmit signals belonging to said first signals for

said first terminal {col.2, lines 32-41; Nishimura's system is a cellular system thus each cell has a base station providing signals to all mobile stations within its cell. Hence, when a mobile station of cell 1 moves to cell 2, normally it crosses an overlapping part of cell 1 and cell 2 (although Nishimura does not explicitly disclose the overlapping feature between cells, but this overlapping is inherent in cellular system wherein a mobile station is on the move from a cell to another---emphasis added). Therefore, in the overlapping part of the two cells 1-2, the moving mobile station receives both signals from base station 1 of the cell 1 and from base station 2 of cell 2. Also, because signal 64 kbps was being divided (demultiplexed) into a plurality of 11.2 kbps signals, thus 11.2 kbps signals were transmitted from n base stations to mobiles within its cell simultaneously---emphasis added}.

Nishimura does not explicitly disclose the first base station transmits a different signal than a signal transmitted by the second base station.

Tiedemann (5,926,470) discloses base stations transmitting at different frequencies to a mobile (in hard handoff) or at the same frequency but with different signal levels (in soft handoff){col.11, lines 1-46, and figs.4}.

Therefore, it would have been obvious to an artisan to apply Tiedemann's teaching to Nishimura's system with the motivation being to handoff between base station as mobile station moved from one area to another without interrupting mobile's communication connection.

Regarding claim 23:

Nishimura discloses an apparatus for a radio LAN system, comprising:

Receiving unit receiving a first slot having first signals for a first terminal and a second slot having second signals for a second terminal {col.2, lines 4-6};

Dividing unit dividing said first signals of said first slot into at least a first part and a second part {col.2, lines 14-20};

Converting said first part into a first converted part having a lower transmitting rate than that of said first part {col.2, lines 20-31}

Converting unit converting said second part into a second converted part having a lower transmitting rate than that of said second part {col.2, lines 20-31}; and

Transmitting unit transmitting said first converted part from a first base station to said terminal and transmitting said second converted part from a second base station to said terminal, wherein said first base station and said second base station simultaneously transmit signals belonging to said first signals for said first terminal {col.2, lines 32-41; Nishimura's system is a cellular system thus each cell has a base station providing signals to all mobile stations within its cell. Hence, when a mobile station of cell 1 moves to cell 2, normally it crosses an overlapping part of cell 1 and cell 2 (although Nishimura does not explicitly disclose the overlapping feature between cells, but this overlapping is inherent in cellular system wherein a mobile station is on the move from a cell to another---emphasis added). Therefore, in the overlapping part of the two cells 1-2, the moving mobile station receives both signals from base station 1 of the cell 1 and from base station 2 of cell 2. Also, because signal 64 kbps was being divided (demultiplexed) into a plurality of 11.2 kbps signals, thus 11.2 kbps signals were transmitted from n base stations to mobiles within its cell simultaneously---emphasis added}.

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*Allowable Subject Matter*

1. Claims 3-5, 8-9, 11-12 are allowable over prior art of the record.

*Response to Arguments*

2. Applicant's arguments filed 1-2-04 have been fully considered but they are not persuasive.

A/. Applicant argued that Nishimura does not teach, "dividing each original data component into n-1 subcomponents, each of the subcomponents containing a different and smaller portion of the respective original data component."(claims 24-25)

In reply, Nishimura discloses dividing each original data component into n-1 sub-components, each of the sub-components containing a different and smaller portion of the respective original data component {col.2, lines 14-20; in figure 1 wherein the first original data (64 kbps) being demultiplexed into a smaller and different signals at lower rate, 11.2 kbps (n-1 sub-components).

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuongchau Ba Nguyen whose telephone number is 703-305-0093. The examiner can normally be reached on Monday-Friday from 10:00 a.m. to 3:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on 703-308-6602. The fax phone numbers for the organization where this application or proceeding is

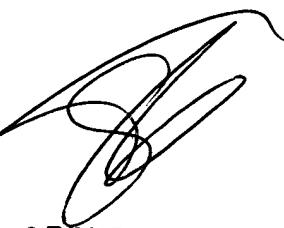
assigned are 703-872-9306 for regular communications and 703-872-9306  
for After Final communications.

Any inquiry of a general nature or relating to the status of this application  
or proceeding should be directed to the receptionist whose telephone number  
is 703-305-4700.



Phuongchau Ba Nguyen  
Examiner  
Art Unit 2665

March 2, 2004



STEVEN H. D. NGUYEN  
PRIMARY EXAMINER